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Improving Nutrition ATI Scores Via Lecture, Class Presentation, & Clinical Intervention Strategies

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Literature Review

Assessment Technologies Institute (ATI) Nursing Education was founded in 2008 and is part of Ascend Learning (AL) (About ATI, 2016). AL is a leader in providing technology-based educational, testing, and assessment solutions that help prepare students for National Council Licensure Examination (NCLEX) examinations (ATI Test Bank, 2016). ATI offers a wide range of resources for students including unique proprietary remediation for both proctored and practice assessments (ATI Product Solutions, 2016). ATI remediation ties areas requiring remediation for students directly back to the content being tested on the NCLEX, leading to greater NCLEX pass rates and lower attrition rates for nursing students. By identifying students at risk for failing the NCLEX, an opportunity is created to allow for remediation efforts to be enacted to strengthen and improve students' knowledge in week content areas (Alameida et al., 2011).

There are multiple ATI topic areas including: Adult Medical Surgical, Fundamentals, Pharmacology, Focused Adult Medical Surgical, Maternal-Newborn, Nursing Care of Children, Mental Health, Community Health, Nutrition, and Leadership and Management (ATI Product Solutions, 2016). Each topic area is meant to cumulatively assess the students' knowledge and preparation level for the NCLEX. One examination or topic area is not enough to determine the students' likelihood of success on the NCLEX. Thus students that are most likely to pass the NCLEX examination are well balanced in all topic areas. Students that are weak in one or more areas are encouraged to improve their scores in that content area, which may lead to higher overall success rates on the NCLEX overall.

In order to meet the needs of all nursing students, ATI recommends a variety of remediation techniques to be employed including: use of their remediation tools, reading materials, videos, practice assessments, and utilization of online resources (ATI Product Solutions, 2016). With these recommendations, further focus and integration of content has been recommended within the classroom setting, although specific techniques for implementation are not widely discussed or researched at this time. Therefore, unique and multidisciplinary approaches to nursing education were considered for the integration of ATI content.

Utilization of multiple domains has been thought to improve understanding of content. Nursing students also value the utilization of many different methods for learning, especially those that are student-centered (Shwu-Fen, Hsiu-Chuan, Kuei-Fen, & Hei-Fen, 2015). Innovative pedagogies improve understanding for diverse learners across a variety of settings (Levey, 2018). Therefore, a 3 part intervention may be best suited to integrate nutrition ATI content into the current nursing education being provided within the undergraduate nursing program. The 3 interventions include: a nutrition based lecture, student lead class presentations, and a geriatric assessment tool for nutrition concepts utilized 2 times within the clinical experience associated with the course.

Nutrition is a multidisciplinary involved subject, therefore, the nutrition faculty within the college were asked to assist and lend their expertise to the education of the students within the course. Development of the strategies was a combined effort from both the nursing faculty and the nutrition faculty alike. This multidisciplinary approach is believed to foster further learning for the students related to nutrition.

Methods

Students are required to take a Gerontology (NURS 406, Caring Practice-Older Adult) course during their senior year at Mount Carmel College of Nursing. Nutrition ATI assessments have been integrated into the course. ATI scores are predictive of successful outcomes on the NCLEX licensure examination. Prior to these interventions, Nutrition ATI scores are available for the 2017 Summer term, 2017 Fall semester (Terms 1 & 2), and 2018 Spring Semester (Terms 1 & 2). There are three categories of ATI scores: (1) raw scores, (2) levels, and (3) average scores per term.

Comparison of 2017 and 2018 Summer term ATI scores

The ATI raw scores dependent variable is a continuous variable. The ATI levels (i.e., Three, Two, One, Below One) is useful and the ATI average scores per term are informative; however, the ATI raw scores will be the priority dependent variable. The independent variables are: (1) nutrition lecture by the third author and (2) a nutrition class presentation by nursing students. The nutrition concepts selected for the lecture and student class presentations were based on frequently missed questions on the ATI Nutrition assessments from the 2017-2018 Academic Year. Hypothesis: The ATI nutrition scores would be different based on the presentation of the independent variables (i.e., nutrition lecture by the third author and student class presentations).

Description of the Nutrition Lecture

Historically, a nutrition-specific 50 minute nutrition lecture has been provided in our geriatric nursing course as a way to promote health and wellness while addressing common concerns in the older adult. In 2018, the ATI nutrition module was initiated within this class and scores were lower than expected given the extensive nutrition integration throughout MCCN curriculum. To address these scores, an additional 50 minutes was added to the nutrition geriatric lecture in Summer 2018. With the additional 50 minutes, commonly missed concepts from the ATI were incorporated into the existing lecture. These nutrition concepts are basic and directly applicable to future nurses, including iron sources, anemia, fiber intake, hydration, protein, and saturated fat. All nursing students receive this information in a basic nutrition course during sophomore year or before. When the students are in their senior year, as is the case with the geriatric course, a refresher of the information could be beneficial as students prepare for the NCLEX exam.

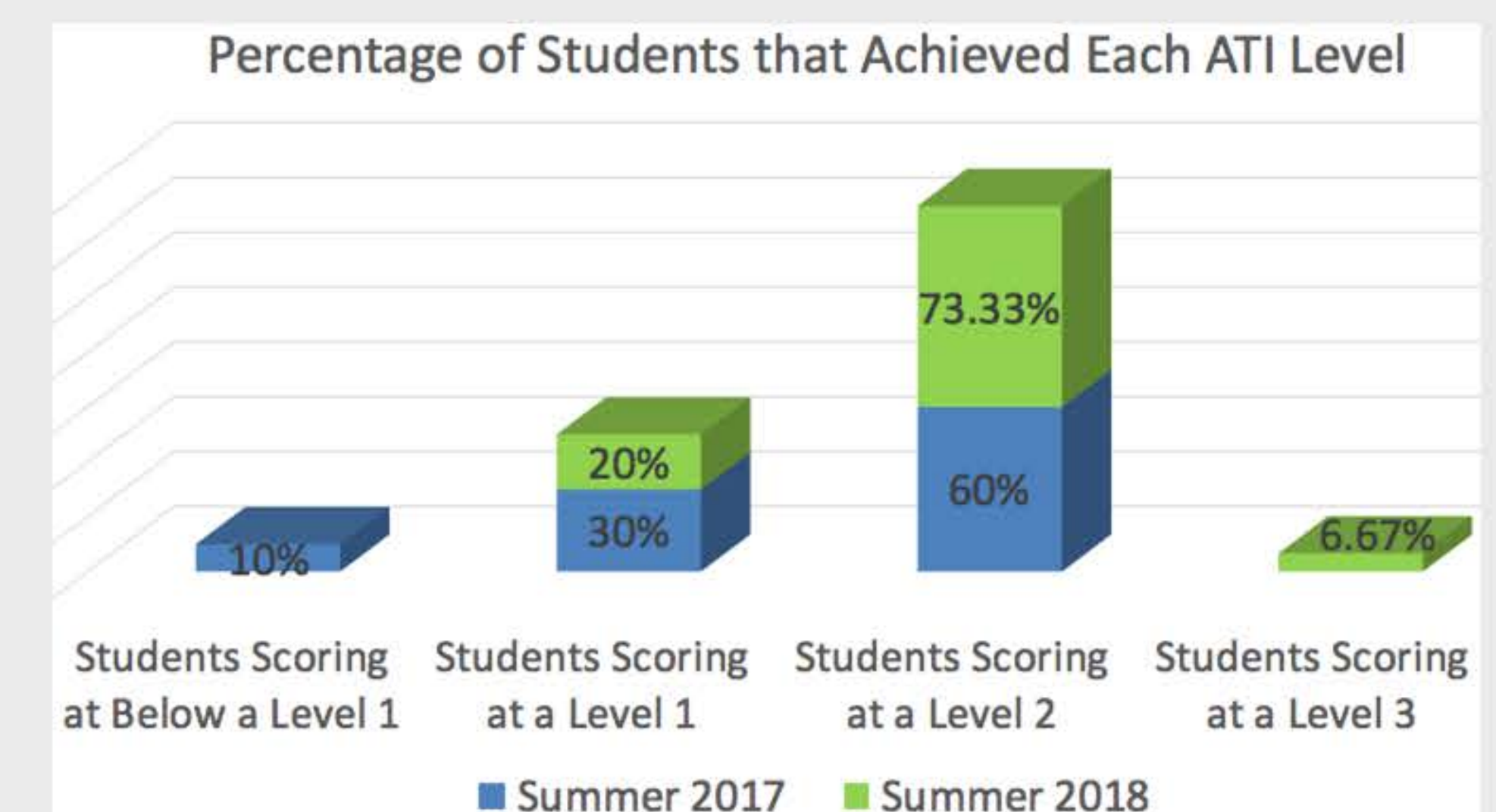
Description of the Student Class Presentation

Students in the 2018 Summer class were broken down into groups of 2-3 students. Each group was provided with commonly missed topics from the ATI Nutrition assessment from the 2017-2018 Academic Year. 3 topics for groups of 2 and 6 topics for groups of 3 were provided. Students were given 2 weeks to create their presentations as a group assignment. Following the due date, groups were called upon in a randomized fashion to present their content at the end of class during the remaining 4 weeks of the term, prior to their scheduled ATI Nutrition assessment. Each group was given 10-15 minutes for the groups of 2 and 20-30 minutes for the groups of 3 to complete their presentation. Students utilized power point presentations and Kahoot for presentation of questions. Students were also awarded 5/300 class points for successfully completing their presentations.



Findings

Rationale for the comparison of the 2017 and the 2018 Summer term ATI scores: Students enrolled in summer term courses tend to have higher motivation levels, fewer courses and commitments, and more free time. One limitation of the summer term NURS 406 course is the student enrollment. The number of students in the Summer course 2017 (N=10) and in the 2018 (N=15) courses were less than the recommended 30 to 50 participants recommended for the SPSS independent *t*-test. Using the secondary ATI information, these data revealed an increase of 20% (i.e. 2017, 60%; 2018 ATI, 80%) of students scoring in the level two and three categories. The ATI average scores increased 7.44%.



Discussion

Using two independent variables, nutrition scores increased the ATI levels and ATI average scores for Summer 2018. Nutrition ATI improvements can assist in raising NCLEX pass rates and maintaining them. Beginning Fall 2018 semester (term 1), three independent variables will be used to increase the nutrition ATI raw scores: (1) nutrition lecture by the third author, (2) a nutrition class presentation by nursing students, and (3) clinicals application of nutrition concepts. Since the Fall semester enrollment is greater than 30 students per term, the SPSS 25 independent *t*-test would be used to analyze the data.

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